

**REMARKS**

In accordance with the foregoing, the drawing is amended to provide improved correlation with the claims. Claims 1 and 27 are amended and claims 32 – 35 are canceled. No new matter is presented in this Amendment. Claims 1 – 11 and 27 - 31 are pending and under consideration.

**Objection to the drawings:**

At page 2 of the Office Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) on the alleged grounds that the code limitations/constraints as further defined in claims 4, 7, 8, 11, 30 and 31 must be shown or the features canceled from the claims. For the following reasons, this objection is respectfully traversed and reconsideration is requested.

FIG. 3 of the drawings is amended herein by the submission of a replacement sheet. The amended drawing depicts an example of the code limitations/constraints of claims 4, 7, 8, 11, 30 and 31. In particular, the amended drawing depicts the sync identification of the first sync pattern and the second sync pattern that satisfies the RLL (d, k) code. Therefore, the drawing satisfies the requirement of 37 C.F.R. 1.83(a) of showing every feature of the claimed invention, and the objection should be withdrawn.

**Objection to claims 11 and 28 - 35 under 37 C.F.R. 1.75(c)**

At page 3 of the Office Action, the Examiner objected to claims 11 and 28 - 35 under 37 C.F.R. 1.75(c) as allegedly being in improper dependent form for allegedly failing to further limit the subject matter of a previous claim. For the following reasons, these objections are respectfully traversed and reconsideration is requested.

Regarding claim 11, 32 and 33, the Examiner alleged that these claims add no further structural limitations to the storage medium. In particular, the Examiner alleged that these claims add no further product limitations.

This objection is clearly in error, since it is beyond any question that each dependent claim further limits the claimed subject matter and imparts a structural change to the storage medium. Claim 11 further limits the information storage medium of claim 1 by reciting that each

of the first and second sync patterns comprise sync data that comprises a sync identification that satisfies the RLL (d, k) code. The rejection regarding claims 32 and 33 is moot in view of the cancellation of these claims.

Regarding claims 28 - 30, the Examiner alleged that these claims add no further apparatus limitations. This objection is clearly in error, since it is beyond any question that each dependent claim further limits the claimed subject matter. Claim 28 limits the recording and/or reproducing apparatus of claim 27 by reciting that the controller controls the recording and/or reproducing unit to determine the user data area of the information storage medium wherein the first sync pattern is disposed in a first location and a second location of the user data area so as to define a first size of the user data, the second sync pattern is disposed in a first location and a second location of the additional data area so as to define a second size of the additional data, and wherein the first size is equal to the second size. In other words, the controller operates according to properties of the information storage medium as defined in the claim. Claim 29 limits the recording and/or reproducing apparatus of claim 27 by reciting that the controller controls the recording and/or reproducing unit to determine the user data area of the information storage medium. Claim 30 limits the recording and/or reproducing apparatus of claim 27 by reciting that the controller further detects in the first sync pattern: a sync body that does not satisfy a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k; and a sync identification that satisfies the RLL (d, k) code. The rejection of claims 34 and 35 is moot, since these claims are canceled. Further, the Examiner has not provided any basis for his allegation that the claims are required to be written in means plus function language.

In view of the foregoing, it is respectfully requested that all of the objections to claims 11 and 28 - 31 be withdrawn.

#### **Rejection of claims 1 – 11 under 35 U.S.C. §101**

At page 4 of the Office Action, the Examiner rejected claims 1 - 11 under 35 U.S.C. §101 on the alleged grounds that the claimed invention is directed to non-statutory subject matter, referring to M.P.E.P section 2106. The Examiner alleged that the “wherein” clause of claim 1 is interpreted as non-descriptive functional subject matter. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

It is respectfully submitted that the characterization by the Examiner of the subject matter of claim 1 as “non-descriptive functional subject matter” does not raise any issue under 35 U.S.C. §101, since non-descriptive functional subject matter is clearly statutory subject matter. Moreover, the Examiner does not provide any explanation to support his allegation that the claims do not meet the definition of statutory subject matter.

Under the Examination Guidelines for Computer-Related Inventions set forth at Section 2106 of the M.P.E.P and also to Annex IV of the Interim Guidelines for Examination of Patent Application for Patent Subject Matter Eligibility set forth at 1300 OG 132 (Nov. 22, 2005), a computer readable medium encoded with a data structure that defines structural and functional interrelationships between the data structure and the computer software and hardware components that permit the data structure’s functionality to be realized is statutory subject matter. The term “computer” is not a prerequisite to compliance with 35 U.S.C. §101, since the Federal Circuit in *In re Lowry*, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994) found a “memory” with a “data structure” to be compliant with 35 U.S.C. §101.

In the present application, independent claim 1 is directed to an information storage medium for use a recording and/or reproducing apparatus. The information storage medium includes a user data area in which user data is recorded and which has first sync areas. The information storage medium also includes an additional data area located in an area before or after the user data area. The additional data area includes second sync patterns that are different from the first sync patterns and that allow a recording and/or reproducing apparatus distinguishes between the user area and the additional data area according to the first sync pattern or second sync pattern. Further, the second sync patterns include a third sync pattern having a third sync body and a third sync identification, and a fourth sync pattern having a fourth sync body and a fourth sync identification, and the third sync identification is different from the fourth sync identification.

The claims clearly define functional subject matter that is physically embodied in a computer-readable medium, consistent with both the Guidelines and the Federal Circuit’s holding in *In re Lowry*. In particular, independent claim 1 provides for the information storage medium to have a user data area and an additional data area and provide that the user area and additional data area have different sync patterns such that the recording and/or reproducing apparatus can distinguish the user data area and the additional data area.

Moreover, there is no basis for the allegation by the Examiner that the claims are not drawn to a computer readable medium. Although independent claim 1 does not use the exact term “computer readable medium,” clearly an information storage media that has the characteristic that a user data area and an additional data area can be distinguished by a recording and/or reproducing apparatus according to first and second sync patterns would be understood by persons skilled in the art as a computer readable medium, since the actions of a recording and/or reproducing apparatus to distinguish the user data area and the additional data area based on the first and second sync patterns would be understood by persons skilled in the art as being a computer function. Therefore, the guidance provided by the Examination Guidelines for Computer-Related Inventions set forth at Section 2106 of the M.P.E.P. and also to Annex IV of the Interim Guidelines for Examination of Patent Application for Patent Subject Matter Eligibility set forth at 1300 OG 132 (Nov. 22, 2005) in determining subject matter eligibility is clearly relevant to the present claims.

Accordingly, the subject matter of claims 1 – 11 is clearly statutory under 35 U.S.C. §101. Therefore, the rejection should be withdrawn.

**Rejection of claims 1 – 11 under 35 U.S.C. §112 second paragraph**

Also at page 4 of the Office Action, the Examiner rejected claims 1 - 11 under 35 U.S.C. §112, second paragraph, on the alleged grounds that the claims do not correspond in scope with what the applicants regard as the invention. The Examiner alleged that the statements in the Applicant’s reply filed on April 3, 2007 to the effect that the claims are drawn to structural and functional interrelationships between the data structure and the computer software and hardware components that permit the data structure’s functionality indicate that the invention is different from what is defined in the claims. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

The Examiner is in error in alleging that arguments made in Applicant’s reply filed on April 3, 2007 cannot be inferred or interpreted from the claimed invention. Claims 1 – 11 relate to an information storage medium for use with a recording and/or reproducing apparatus and provide, among other limitations, that information storage medium has a user data area and an additional data area and provides that the user area and additional data area have different sync patterns. Applicants’ argument, repeated above, is that persons skilled in the art would

recognize that the first and second sync patterns are not descriptive material per se, but have a function and a practical application. In other words, persons skilled in the art would recognize that the first and second sync patterns are not formed just to make pretty patterns on a disk and the claimed first and second sync patterns are not music, literary works, a compilation or mere arrangement of data or other types of material considered in Section 2106 of the M.P.E.P. as non-functional descriptive material. Moreover, independent claim 1 is amended herein to recite that the first sync patterns and second sync patterns allow the apparatus to distinguish the additional data area from the user data area as argued in Applicants' reply of April 3, 2007. Therefore, the rejection should be withdrawn.

**Rejection of claims 1 – 11 under 35 U.S.C. §112, first paragraph**

At page 5 of the Office Action, the Examiner rejected claims 1 - 11 under 35 U.S.C. §112, first paragraph, as allegedly being based on a disclosure that is not enabling. The Examiner alleged that signal processing elements are required in order to provide the desired pattern as defined in the ultimate clause of claim 1 and that the place/arrangement/size of the patterns as defined in claims 2 – 11 is critical or essential to the practice of the invention but not included in the claims is not enabled by the disclosure. The Examiner further alleged that independent claim 1 recites a product having a user and additional data areas that have sync patterns, but alleges that the remainder of the claim is written in a wherein clause reciting a plethora of desired results that allegedly do not follow from the structure but are the result of appropriate steps/method/apparatus necessarily required to yield such. The Examiner alleged that since these steps/apparatus are not included in the claims, the claims are lacking critical elements. For the following reasons, this rejection is traversed and reconsideration is requested.

Claim 1 as amended does not contain a wherein clause reciting a plethora of desired results. (Applicants do not agree with the Examiner's characterization of the previous version of claim 1, but that question is now moot.) Moreover, persons skilled in the art would clearly be capable of providing an information storage medium having the recited user data area having first sync patterns and additional data area having second sync patterns that are different from the first sync patterns and that allow the apparatus to distinguish the additional data area from the user data area based on Applicants' disclosure and drawings and the general skill in the art without undue experimentation. Therefore, there is no basis for the Examiner's allegation that

the disclosure is not enabling, and the rejection should be withdrawn.

**Rejection of claims 27 – 31 under 35 U.S.C. §102 over Roth et al.**

Also at page 4 of the Office Action, claims 27 - 31 were rejected under 35 U.S.C. §102(b) as being anticipated by Roth et al. (U.S. Patent 6,188,335). The Examiner alleged that Roth et al. discloses a digital transmission method for recording data that provides for the placement of appropriate sync signals interleaved between data areas. The Examiner alleged that first and second sync patterns are self-evident and that plural patterns are disclosed. The Examiner further alleged that with respect to claim 27, a recording/reproducing unit is inherently present and that the controller is performed by the CPU element following the overall process/method limitations disclosed. The Examiner further alleged that with respect to claim 28, the first and second locations for the sync signals/patterns are so defined. The Examiner further alleged that with respect to claim 29, data is transferred. The Examiner further alleged that with respect to claims 30 and 31, the d,k constraints are present. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

Independent claim 27 relates to a recording and/or reproducing apparatus for use with an information storage medium comprising a user data area having first sync patterns and an additional data area located in at least one of areas before and after the user data area and having second sync patterns that are different from the first sync patterns and that allow the apparatus to distinguish the additional data area from the user data area, the apparatus comprising a recording and/or reproducing unit to optically transfer data including user data and/or additional data between the apparatus and the information storage medium; and a controller to control the recording and/or reproducing unit to transfer the user data with respect to the user data area, and to transfer the additional data with respect to the additional information area. Further, the second sync patterns include a third sync pattern having a third sync body and a third sync identification, and a fourth sync pattern having a fourth sync body and a fourth sync identification, and the third sync identification is different from the fourth sync identification.

Roth et al., on the other hand, relates to a method of encoding and decoding data using multiple coding schemes such that the same data is encoded in two different ways so that it can be encoded and/or decoded by both higher and lower resolution systems. Contrary to what is

alleged by the Examiner, Roth et al. does not describe a recording and/or reproducing apparatus for use with an information storage medium comprising a user data area having first sync patterns and an additional data area located in at least one of areas before and after the user data area and having second sync patterns that are different from the first sync patterns and that allow the apparatus to distinguish the additional data area from the user data area, the apparatus comprising a recording and/or reproducing unit to optically transfer data including user data and/or additional data between the apparatus and the information storage medium; and a controller to control the recording and/or reproducing unit to transfer the user data with respect to the user data area, and to transfer the additional data with respect to the additional information area as required by independent claim 27.

Moreover, contrary to what is alleged by the Examiner, Roth et al. at col. 4, starting at line 3 does not describe different sync patterns. In the passage referred to by the Examiner, Roth et al. describes different (d,k)-RLL codes for encoding the data itself, not different sync patterns. The Examiner appears to be relying on inherency to support the allegation that first and second sync patterns are self-evident. However, the Examiner has not provided any evidence that encoding data with a first (d,k)-RLL code and a second (d,k)-RLL would necessarily involve first and second sync patterns. In fact, at Col. 11, line 42, Roth et al. describes the use of a single bit pattern for synchronization. Therefore, Roth et al. does not inherently or self-evidently describe first and second sync patterns.

Therefore, the rejection should be withdrawn. Moreover, for the same reasons as described above, claims 1 – 11 are also allowable over the applied art.

**Rejection of claims 1, 2, 3, 5, 6, 9, 10, 27, 28 and 29 under 35 U.S.C. § 103(a) over Isozaki et al. in view of Bluthgen et al. or Hirayama et al.**

At page 6 of the Office Action, claims 1, 2, 3, 5, 6, 9, 10, 27, 28 and 29 were rejected under 35 U.S.C. § 103(a) over Isozaki et al. (U.S. Patent No. 5,715,356)(hereinafter, "Isozaki") in view of Bluthgen et al. (U.S. Patent No. 5,587,979) (hereinafter, "Bluthgen") or Hirayama et al. (5,715,356) (hereinafter, "Hirayama"). The Examiner alleged that Isozaki discloses a record medium having both user data areas and additional data areas, which the Examiner interpreted as video and audio data areas, respectively. The Examiner further alleged that either Bluthgen or Hirayama teach additional audio data having an appropriate id/identification component. The

Examiner took the position that it would have been obvious to modify the base system of Isozaki with the additional teachings from Bluthgen or Hirayama to provide a plethora of audio languages on a record medium associated with video data. The Examiner further alleged that the limitations of claims 2, 3, 5, 6, 9, 10, 28 and 29 are inherent. The Examiner further took official notice that, as alleged by the Examiner, appropriate sectoring of information upon a record medium is common, that placing the sync signals at regular intervals is common and that such regularity is part and parcel of video/audio signal formats and hence equal data sizes, integer multiples are known. The Examiner alleged that it would have been obvious to modify the base system with well known formats. For the following reason, this rejection is respectfully traversed and reconsideration is requested.

Contrary to what is alleged by the Examiner, the description relating to video and audio of Isozaki et al. is not a description of a user data area and an additional data area as recited in the present claims, since persons skilled in the art would recognize that the video and audio of Isozaki et al. are both user data and are both present in a user data area. Moreover, contrary to what is alleged by the Examiner, Isozaki et al. does not describe that second sync patterns in an additional data area are different from first sync patterns in a user data area, since Isozaki et al. only relates to identifying types of blocks rather than areas of the storage medium. Further, at col. 16, lines 5 - 8 of Isozaki et al., it is described that the sync pattern is a predetermined bit pattern of two bytes. In other words, the sync pattern of Isozaki et al. does not vary and is used only to detect synchronization. What the Examiner referred to as video and audio data having "their own respective sync patterns, not being the same" are separate ID sections that are outside of the sync pattern and are not used to identify areas of the information storage medium, but rather are used to identify blocks of data. Moreover, neither Hiroshima nor Bluthgen nor the alleged known art to which the Examiner takes Official Notice overcome the deficiencies of Isozaki. In particular, neither Hiroshima nor Bluthgen describe sync patterns that vary and do not describe an information storage medium for use with a recording and/or reproducing apparatus comprising a user data area in which user data is recorded and having first sync patterns; and an additional data area located in at least one of areas before and after the user data area and having second sync patterns different from the first sync patterns and that allow the apparatus to distinguish the additional data area from the user data area. Therefore, the rejection should be withdrawn.



**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

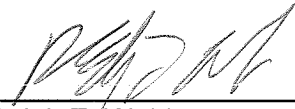
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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